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Job No.: CTCE/BBMP/W.No.08/KRIDL/SDBC/AGG/2014-15 15.07.2014

Aggregate Gradation Test

IS : 2386 Part I

Client	**Asst. Executive Engineer,** Kodigehalli Sub Division, BBMP, Bangalore.
Agency	**Technical Manager,** KRIDL, Bangalore.
Name of the Work	Improvements to roads and drains at Devinagara and Lottegollahalli in Ward No. 8, BBMP, Bangalore.
Reference	AEE/KH/442/2014-15 Dated: 31.03.2014
Sample I / D	Hot Mix Plant, Bangalore
Type of Mix	Semi Dense Bituminous Concrete (SDBC)
Date of Testing	15.07.2014

Total Weight of Sample: **5650** gm

SIEVE SIZE, mm	Weight Retained, gm	% Retained	Cummulative % Retained	% Passing	Grade-II As per MORTH	Remarks
13.2	0	0.0	0	100	100	Gradation satisfies Grade-II MORTH specification
9.5	482	8.5	8.53	91.47	90-100	
4.75	2865	50.7	59.24	40.76	35-51	
2.36	716	12.7	71.91	28.09	24-39	
1.18	462	8.2	80.09	19.91	15-30	
0.3	357	6.3	86.41	13.59	9-19	
0.075	425	7.5	93.93	6.07	3-8	

Total Weight of Sample: **5575** gm

SIEVE SIZE, mm	Weight Retained, gm	% Retained	Cummulative % Retained	% Passing	Grade-II As per MORTH	Remarks
13.2	0	0.0	0	100	100	Gradation satisfies Grade-II MORTH specification
9.5	436	7.8	7.82	92.18	90-100	
4.75	2865	51.4	59.21	40.79	35-51	
2.36	726	13.0	72.23	27.77	24-39	
1.18	483	8.7	80.90	19.10	15-30	
0.3	384	6.9	87.78	12.22	9-19	
0.075	412	7.4	95.17	4.83	3-8	

Note:

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12.07.2014

Aggregate Impact Value

IS: 2386 Part IV

Client	**Asst. Executive Engineer,** Kodigehalli Sub Division, BBMP, Bangalore.
Agency	**Technical Manager,** KRIDL, Bangalore.
Name of the Work	Improvements to roads and drains at Devinagara and Lottegollahalli in Ward No. 8, BBMP, Bangalore.
Reference	AEE/KH/442/2014-15 Dated: 31.03.2014
Source / Location	Hot Mix Plant, Bangalore
Type of Mix	Semi Dense Bituminous Concrete
Date of Testing	12.07.2014

Sl No.	Details	Trial No. 1	Trial No. 2	Average
1	Total weight of aggregate sample filling the cylindrical measure = W_1 g	382	385	
2	Weight of agregate passing 2.36 mm sieve after the test = W_2 g	82	85	
3	Weight of aggregate retained 2.36 mm sieve after the test = W_3 g	300	300	
4	Aggregate Impact value = percent fines 100* (W_2/W_1)%	21.47	22.08	21.77

Comments:

→ Maximum allowable Aggregate Impact value for Semi Dense Bituminous Concrete is 27%

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Job No.: CTCE/BBMP/W.No.08/KRIDL/SDBC/Shape_T/2014-15 12.07.2014

DETERMINATION OF FLAKINESS INDEX & ELONGATION INDEX OF COARSE AGGREGATES

Client	**Asst. Executive Engineer,** Kodigehalli Sub Division, BBMP, Bangalore.
Agency	**Technical Manager,** KRIDL, Bangalore.
Name of Work	Improvements to roads and drains at Devinagara and Lottegollahalli in Ward No. 8, BBMP, Bangalore.
Reference	AEE/KH/442/2014-15 Dated: 31.03.2014
Technical Reference	IS 2386(Part 1) 1963 (RA 2007)
Type of Mix	Semi Dense Bituminous Concrete
Date of Testing	12.07.2014

Result : Flakiness Index = **12.15%**

Elongation Index = **13.52%**

Result : Combined Flakiness & Elongation index **25.67%**

Comments:

→ Maximum allowable Flakiness & Elongation Index for Semi Dense Bituminous Concrete is 30%

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Job No.: CTCE/BBMP/W.No.08/KRIDL/WMM/S-T/2014-15 23.06.2014

DETERMINATION OF FLAKINESS INDEX & ELONGATION INDEX OF COARSE AGGREGATES

Client	**Asst. Executive Engineer,** Kodigehalli Sub Division, BBMP, Bangalore.
Agency	**Technical Manager,** KRIDL, Bangalore.
Name of Work	Improvements to roads and drains at Devinagara and Lottegollahalli in Ward No. 8, BBMP, Bangalore.
Reference	AEE/KH/442/2014-15 Dated: 31.03.2014
Technical Reference	IS 2386(Part 1) 1963 (RA 2011)
Type of Mix	Wet Mix Macadam
Date of Testing	23.06.2014

Result : Flakiness Index = **11.13%**

Elongation Index = **13.42%**

Result : Combined Flakiness & Elongation index 24.55%

Comments:

→ Maximum allowable Flakinee & Elongation Index for Wet Mix Macadam is 30%

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Aggregate Impact Value

IS: 2386 Part IV

Client	**Asst. Executive Engineer,** Kodigehalli Sub Division, BBMP, Bangalore.
Agency	**Technical Manager,** KRIDL, Bangalore.
Name of the Work	Improvements to roads and drains at Devinagara and Lottegollahalli in Ward No. 8, BBMP, Bangalore.
Reference	AEE/KH/442/2014-15 Dated: 31.03.2014
Source / Location	WMM Plant
Type of Mix	Wet Mix macadam
Date of Testing	23.06.2014

Sl No.	Details	Trial No. 1	Trial No. 2	Average
1	Total weight of aggregate sample filling the cylindrical measure = W_1 g	384	386	
2	Weight of agregate passing 2.36 mm sieve after the test = W_2 g	84	86	
3	Weight of aggregate retained 2.36 mm sieve after the test = W_3 g	300	300	
4	Aggregate Impact value = percent fines	21.88	22.28	
	100* (W_2/W_1)%			22.08

Comments:

→ Maximum allowable Aggregate Impact value for Wet mix Macadam is 30%

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23.06.2014

GRADATION FOR WMM
MORTH TABLE-400-11

Client : **Asst. Executive Engineer,** Kodigehalli Sub Division, BBMP, Bangalore.

Agency : **Technical Manager,** KRIDL, Bangalore.

Name of Work : Improvements to roads and drains at Devinagara and Lottegollahalli in Ward No. 8, BBMP, Bangalore.

Reference : AEE/KH/442/2014-15 Dated: 31.03.2014

Date of Testing : 23.06.2014

Material : WMM

Sample Location : WMM Mix Plant

Oven Dry Wt (gm): **9495**

Is Sieve Size in mm	Weight Retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Spec.Limits
53	0	0	0	100	100
45	390	390	4.1	95.9	95-100
22.4	2315	2705	28.5	71.5	60-80
11.2	1485	4190	44.1	55.9	40-60
4.75	1985	6175	65.0	35.0	25-40
2.36	1060	7235	76.2	23.8	15-30
0.600	1095	8330	87.7	12.3	8-22
0.075	815	9145	96.3	3.7	0-8

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Job No.: CTCE/BBMP/W.No.08/KRIDL/AGG/2014-15 : 21.05.2014

TEST REPORT ON COARSE AGGREGATES
IS 383-1970 (RA- 2002)

Client : **Asst. Executive Engineer,** Kodigehalli Sub Division, BBMP, Bangalore.

Agency : **Technical Manager,** KRIDL, Bangalore.

Name of Work : Improvements to roads and drains at Devinagara and Lottegollahalli in Ward No. 8, BBMP, Bangalore.

Reference : AEE/KH/442/2014-15 Dated: 31.03.2014

Date of Testing : 21.05.2014

Material : 40mm Aggregates

Total Wt. of Aggregates in gms **25200**

Is Sieve Size in mm	Weight Retained (gm)	Retained Weight in %	Cumulative Retained Weight in %	Cumulative Weight Passing in %	Spec.Limits
80	0	0	0	100	100
40	967	3.84	3.84	96.16	95-100
20	15925	63.19	67.03	32.97	30-70
10	5036	19.98	87.02	12.98	10-35
4.75	2741	10.88	97.89	2.11	0-5

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3. Any Query regarding the report must be reported within 15 days from the date of testing.

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Job No.: CTCE/BBMP/W.No.08/KRIDL/CUBE/2014-15 27.06.2014

TEST REPORT ON CONCRETE CUBES

Client : **Asst. Executive Engineer,** Kodigehalli Sub Division, BBMP, Bangalore.

Agency : **Technical Manager,** KRIDL, Bangalore.

Name of the work : Improvements to roads and drains at Devinagara and Lottegollahalli in Ward No. 8, BBMP, Bangalore.

Reference : AEE/KH/442/2014-15 Dated: 31.03.2014

Sample ID : Cement Concrete

Size of cubes : 150mmx150mmx150mm

Cross Sectional Area : 22500 mm^2

Technical Reference : IS: 516-1959 (Reaffirmed 2008)

Grade of Concrete : M_{15}

Compressive Strength as on : 28^{th} day

Sl.No.	Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	30.05.2014	27.06.2014	8.158	368.7	16.39
2	30.05.2014	27.06.2014	8.265	383.2	17.03
3	30.05.2014	27.06.2014	8.375	398.7	17.72

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